## **Claims**

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A method for treating a subject having an inflammatory joint disorder

administering to a subject in need of such treatment a therapeutically effective amount of a cadherin-11 inhibitory agent

wherein the cadherin-\11 inhibitory agent inhibits binding of cadherin-\11 to a cadherin-\11 counter-receptor.

- 2. The method of claim 1, wherein the inflammatory joint disorder is chronic synovitis.
- 3. The method of claim 1, wherein the inflammatory joint disorder is an autoimmune disease.

arthritis.

The method of claim 3, wherein the autoimmune disease is rheumatoid

- 5. The method of claim 1, wherein the cadherin-11 inhibitory agent is administered locally to a synovium of the subject.
- 6. The method of claim 1, wherein the cadherin-11 inhibitory agent binds selectively to cadherin-11.
- 7. The method of claim 1, wherein the cadherin-11 inhibitory agent binds selectively to a cadherin-11 counter-receptor.
  - 8. The method of claim 1, wherein the cadherin-11 inhibitory agent is an antibody.
- 30 9. The method of claim 1, wherein the cadherin-11 inhibitory agent is a cadherin-11 polypeptide.

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The method of claim 1, wherein the cadherin-11 inhibitory agent is a soluble cadherin-11 polypeptide.

- 11. The method of claim 10, wherein the soluble cadherin-11 polypeptide selectively binds to the cadherin-11 counter-receptor.
  - 12. The method of claim 10, wherein the soluble cadherin-11 polypeptide selectively binds to cadherin-11.
  - 13. The method of claim 1, wherein the cadherin-11 inhibitory agent is a nucleic acid molecule.

The method of claim 13, wherein the nucleic acid molecule encodes a soluble cadherin-11 polypeptide.

- The method of claim 13, wherein the nucleic acid molecule is an antisense molecule.
- 16. The method of claim 1, wherein the cadherin-11 counter-receptor is selected from the group consisting of a cadherin, an integrin, a carbohydrate and an immunoglobulin family member.

The method of claim 1, wherein cadherin-11 and the cadherin-11 counterreceptor are expressed by separate cells.

- 18. The method of claim 1, wherein cadherin-11 is expressed by a cell selected from the group consisting of a type A synoviocyte, a type B synoviocyte, a synovial derived fibroblast, a synovial membrane lining cell, an osteoblest, a cartilage-derived cell and an invasive pannus-derived cell.
- 19. The method of claim 1, wherein the cadherin-11 counter-receptor is expressed by a cell selected from the group consisting of a type A synoviocyte, a type B synoviocyte, a synovial derived fibroblast, a synovial membrane lining cell, an osteoblast, a cartilage-derived

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cell, an invasive pannus-derived cell, a T lymphocyte, a B lymphocyte, a mast cell, a macrophage, a plasma cell, a dendritic cell and a natural killer cell.

- 20. The method of claim 1, wherein the cadherin-11 counter-receptor is a component of an extracellular matrix of a tissue, a cartilage or a bone.
  - 21. The method of claim 1, wherein the cadherin-11 counter-receptor is a molecule secreted by a cell.
  - 22. A method for screening a molecular library to identify a pharmaceutical lead compound that modulates cadherin-11 mediated adhesion between a first cell that expresses cadherin-11 and a second cell that expresses a cadherin-11 counter-receptor, the method comprising

performing a first adhesion assay between the first cell and the second cell to obtain a first adhesion assay result.

performing a second adhesion assay between the first cell and the second cell in the presence of at least one molecular library member to obtain a second adhesion assay result, and

comparing the first and the second adhesion results to determine whether the at least one molecular library member modulates cadherin-11 mediated adhesion between the first cell and the second cell.

- 23. The method of claim 22, wherein the cadherin-11 counter-receptor is selected from the group consisting of a cadherin, an integrin, a carbohydrate and an immunoglobulin family member.
- 24. The method of claim 22, wherein the first cell is selected from the group consisting of a type A synoviocyte, a type B synoviocyte, a synovial derived fibroblast, a synovial membrane lining cell and an extended.
- 25. The method of claim 22, wherein the second cell is selected from the group consisting of a type A synoviocyte, a type B synoviocyte, a synovial derived fibroblast, a

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synovial membrane lining cell, an osteoblast, a T lymphocyte, a B lymphocyte, a plasma cell, a dendritic cell, a macrophage, a mast cell and a natural killer cell.

- 26. The method of claim 22, wherein the first cell is derived from invasive pannus and the second cell is derived from cartilage.
  - 27. The method of claim 22, wherein the molecular library is recombinantly produced.
- The method of claim 22, wherein the molecular library is chemically synthesized.
  - 29. The method of claim 22, wherein the molecular library is a peptide library.
  - 30. A method for screening a molecular library to identify a pharmaceutical lead compound that modulates cadherin-N mediated adhesion, the method comprising

performing a first adhesion assay between cadherin-11 and a cadherin-11 counter-receptor to obtain a first adhesion assay result,

performing a second adhesion assay between cadherin-11 and the cadherin-11 counter-receptor in the presence of at least one molecular library member to obtain a second adhesion result, and

comparing the first and the second adhesion assay results to determine whether the at least one molecular library member modulates cadherin 11 mediated adhesion.

- The method of claim 30, wherein cadherin-11 is isolated.
  - 32. The method of claim 30 wherein cadherin-11 is presented by a cell.
- 33. The method of claim 32, wherein the cell is selected from the group consisting of a type A synoviocyte, a synovial derived fibroblast, a synovial membrane lining cell, an osteoblast, a cartilage-derived cell and an invasive pannus-derived cell.

- 34. The method of claim 30, wherein the cadherin-11 counter-receptor is selected from the group consisting of a cadherin, an integrin, an integrin subunit, a carbohydrate and an immunoglobulin family member.
- 35. The method of claim 30, wherein the cadherin-11 counter-receptor is a cadherin-11 fusion polypertide.
  - 36. The method of claim 30, wherein the cadherin-11 counter-receptor is isolated.
- The method of claim 30, wherein the cadherin-11 counter-receptor is presented by a cell.
  - 38. The method of claim 37, wherein the cell is selected from the group consisting of a type A synoviocyte, a type B synoviocyte, a synovial derived fibroblast, a synovial membrane lining cell, an osteoblast, a T lymphocyte, a B lymphocyte, a natural killer cell, a plasma cell, a mast cell, a dendritic cell, a macrophage, a cartilage-derived cell and an invasive pannus-derived cell.
    - 39. The method of claim 30, wherein cadherin-11 is soluble.
    - 40. The method of claim 30, wherein the eadherin-11 counter-receptor is soluble.
  - 41. The method of claim 30, wherein the molecular library is recombinantly produced.
  - 42. The method of claim 30, wherein the molecular library is chemically synthesized.
    - 43. The method of claim 30, wherein the molecular library is a peptide library.

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administering to a subject in need of such treatment a therapeutically effective amount of an agent which modulates a cellular function in a cadherin-11 expressing cell.

- 45. The method of claim 44, wherein the cellular function is selected from the group consisting of cell proliferation, factor secretion, apoptosis, migration and attachment.
  - 46. A method for screening a molecular library to identify a pharmaceutical lead compound that modulates a cellular function in a cadherin-11 expressing cell, the method comprising

determining a first value of the cellular function for a cadherin-11 expressing cell in the absence of a molecular library member,

determining a second value of the cellular function for a cadherin-11 expressing cell in the presence of at least one molecular library member, and

comparing the first value and the second value to determine whether the at least one molecular library member modulates cellular function in a cadherin-11 expressing cell.

The method of claim 46, wherein the cellular function is selected from the group consisting of cell-proliferation, factor secretion, apoptosis, migration and attachment.

48. A method for screening a molecular library to identify a pharmaceutical lead compound that modulates factor secretion in a cadherin-11 expressing cell, the method comprising

determining a first value of factor secretion for a cadherin-11 expressing cell in the absence of a molecular library member,

determining a second value of factor secretion for a cadherin-11 expressing cell in the presence of at least one molecular library member, and

comparing the first value and the second value to determine whether the at least one molecular library member modulates factor secretion in a cadherin-11 expressing cell.

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49. The method of elaim 48, wherein the factor secretion is selected from the group consisting of stromelysin secretion, collagen secretion, collagenase secretion and IL-6 secretion.

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